



# ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: TAY 650 BYPASS RATIO: 3.0  
 UNIQUE ID NUMBER: 3RR031 PRESSURE RATIO ( $\pi_{c0}$ ): 15.9  
 COMBUSTOR: Pedhead  
 ENGINE TYPE: MTF RATED THRUST ( $F_{00}$ ) (kN): 67.2

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
D <sub>p</sub> /F <sub>00</sub> (g/kN) or SN	6.0	80.0	44.9	12.7
AS % OF ORIGINAL LIMIT	30.6	67.8	62.6	48.1
AS % OF CAEP/2 LIMIT (NO <sub>x</sub> )			78.2	
AS % OF CAEP/4 LIMIT (NO <sub>x</sub> )			91.6	
AS % OF CAEP/6 LIMIT (NO <sub>x</sub> )			98.7	
AS % OF CAEP/8 LIMIT (NO <sub>x</sub> )			115.8	

### DATA STATUS

- PRE-REGULATION  
 x CERTIFICATION  
 - REVISED (SEE REMARKS)

### TEST ENGINE STATUS

- NEWLY MANUFACTURED ENGINES  
 x DEDICATED ENGINES TO PRODUCTION STANDARD  
 - OTHER (SEE REMARKS)

### EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE  
 (ANNEX 16 VOLUME II)

### CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)  
 x OUT OF PRODUCTION (DATE: - )  
 - OUT OF SERVICE (DATE: - )

### MEASURED DATA

MODE	POWER SETTING (%F <sub>00</sub> )	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO <sub>x</sub>	
TAKE-OFF	100	0.7	0.860	0.11	0.69	16.45	5.6
CLIMB OUT	85	2.2	0.710	0.22	0.48	12.94	7.9
APPROACH	30	4.0	0.250	0.11	1.76	5.26	4.0
IDLE	7	26.0	0.120	1.23	22.36	2.50	0.6
LTO TOTAL FUEL (kg) or EMISSIONS (g)			377	261	4361	2591	-
NUMBER OF ENGINES				1	1	1	1
NUMBER OF TESTS				1	4	4	4
AVERAGE D <sub>p</sub> /F <sub>00</sub> (g/kN) or AVERAGE SN (MAX)				3.9	65.2	38.8	9.9
SIGMA (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)							
RANGE (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)					62.4-67.9	38.1-39.5	9.3-10.4

### ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS  
 STAGE BLEED 0 (% CORE FLOW) AT - POWER SETTINGS

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	
TEMPERATURE (K)	283
ABS HUMIDITY (kg/kg)	0.0068-0.0081

### FUEL

SPEC	AVTUR
H/C	1.95
AROM (%)	16.1

MANUFACTURER: Rolls-Royce plc  
 TEST ORGANIZATION: Rolls-Royce plc  
 TEST LOCATION: SINFIN-Derby  
 TEST DATES: 01/06/1997

### REMARKS

1. Pedhead combustor

Compliance with Fuel Venting requirements: - ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)